R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

B is S;

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G is NR⁷R⁸.

In another sub-embodiment, a structure of the formula (XIV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^{i} is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{7} (X = O, NR^{8} or S):

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

B is S;

G is SR7.

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In another sub-embodiment, a structure of the formula (XIV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

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the dotted line indicates the presence of either a single or double bond;

B is NR^7 :

G is OR^7 .

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In another sub-embodiment, a structure of the formula (XIV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

B is NR7;

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G is NR⁷R⁸.

In another sub-embodiment, a structure of the formula (XIV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected

independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

B is NR7;

G is SR^7 .

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In a particular embodiment of the present invention, the compounds of the formula (XIV) are the following species:

R^1 R^6 R^5										
erenen erene e	R.		< ``R⁴	. .	(XIV)					
G	13	R	R²	R ²	X*	₩ ³	R°			
OH	Ö	Me	H	H	H	Me	Me			
OH	O	i-Pr	H	H	H	Me	Me			
OH	O	Ph	Н	H	H	Me	Me			
OH	0	Me	Me	H	H	Me	Me			
ОН	0	i-Pr	Me	Ħ	H	Me	Me			
OH	0	Ph	Ме	H	H	Me	Me			
OH	0	Ме	H	Me	H	Me	Me			
OH	O	i-Pr	H	Me	H	Me	Me			
OH	0	Ph	H	Me	H	Me	Me			
OH	0	Me	H	H	Me	Me	Me			
OH	O	í-Pr	H	H	Me	Me	Me			

R^1 R^6 R^5										
\mathbb{R}^2 \mathbb{R}^3 (XIV)										
G	В	R ¹	R	R.	R	K	R"			
OH	0	Ph	H	H	Me	Me	Me			
OH	0	Me	H	CH₂Ph	H	Me	Me			
OH	Ö	i-Pr	H	CH ₂ Ph	H	Me	Me			
OH	0	Ph	H	CH ₂ Ph	H	Me	Me			
OH	CH ₂	Me	H	H	В	Me	Me			
OH	CH ₂	i-Pr	H	H	H	Me	Me			
OH	CH ₂	Ph	H	H	H	Me	Me			
OH	CH ₂	Me	Me	H	Ħ	Me	Me			
OH	CH ₂	i-Pr	Me	H	H	Me	Me			
ÖĦ	CH ₂	Ph	Me	H	H	Me	Me			
OH	CH ₂	Me	H	Me	H	Ме	Me			
OH	CH ₂	i-Pr	H	Me	H	Me	Me			
OH	CH ₂	Ph	H	Me	H	Me	Me			
OH	CH ₂	Me	H	H	Me	Me	Me			
OH	CH ₂	i-Pr	H	H	Me	Me	Me			
OH	CH ₂	Ph	H	H	Me	Me	Me			
OH	CH ₂	Me	H	CH ₂ Ph	H	Me	Me			
OH	CH ₂	i-Pr	H	CH ₂ Ph	H	Me	Me			
OH	CH ₂	Ph	H	CH ₂ Ph	H	Me	Me			

In a sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

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 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

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 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S).

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R₁ and R₂, R₂ and R₃, R₃ and R₄, R₄ and R₅ and R₅ and R₆ can also each be comprised of one or two CR₇R₈ groups, connected by a tether, selected independently from groups that include CR₇R₈, CR₇R₈CR₇R₈, CR₇=CR₈, CR₇R₈O and CR₇R₈NR₇.

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the dotted line indicates the presence of either a single or double bond;

B and D are selected from the groups that include CR⁷R⁸, O, S or NR⁷;

G is selected from the groups that include OR7, NR7R8 or SR7.

In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

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 R^{T} is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{7} (X = O, NR^{8} or S).

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S);

R₁ and R₂, R₂ and R₃, R₃ and R₄, R₄ and R₅ and R₅ and R₆ can also each be comprised of one or two CR₇R₈ groups, connected by a tether, selected independently from groups that include CR₇R₈, CR₇R₈CR₇R₈, CR₇—CR₈, CR₇R₈O and CR₇R₈NR₇; and

the dotted line indicates the presence of either a single or double bond;

D = O, B = O and $G = OR^{3}$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

 R_1 and R_2 , R_2 and R_3 , R_3 and R_4 , R_4 and R_5 and R_5 and R_6 can also each be comprised of one or two CR_7R_8 groups, connected by a tether, selected independently from groups that include CR_7R_8 , $CR_7R_8CR_7R_8$, $CR_7=CR_8$, CR_7R_8O and $CR_7R_8NR_7$.

the dotted line indicates the presence of either a single or double bond;

$$D = O$$
, $B = NR^{\$}$ and $G = OR^{\$}$.

In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

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 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

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R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷; and

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the dotted line indicates the presence of either a single or double bond;

D = O, $B = CR^7R^8$, and $G = OR^8$.

In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

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 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

or \$).

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 and R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl,

heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S).

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from oroms that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷.

the dotted line indicates the presence of either a single or double bond;

$$D = O$$
, $B = S$ and $G = ORS$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or produce are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR₇R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷; and

the dotted line indicates the presence of either a single or double bond;

$$D = O$$
, $B = O$ and $G = NR^7R^3$.

In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

D = O, $B = NR^8$ and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkuryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester,

alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S);

R₁ and R₂, R₂ and R₃, R₃ and R₄, R₄ and R₅ and R₅ and R₆ can also each be comprised of one or two CR₇R₈ groups, connected by a tether, selected independently from groups that include CR₇R₈, CR₇R₈CR₇R₈, CR₇=CR₈, CR₇R₈O and CR₇R₈NR₇;

the dotted line indicates the presence of either a single or double bond;

$$D = O_{s}B = CR^{7}R^{8}$$
 and $G = NR^{7}R^{8}$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

 R_1 and R_2 , R_2 and R_3 , R_3 and R_4 , R_4 and R_5 and R_5 and R_6 can also each be comprised of one or two CR_7R_8 groups, connected by a tether, selected independently from groups that include CR_7R_8 , $CR_7R_8CR_7R_8$, $CR_7=CR_8$, CR_7R_8O and $CR_7R_8NR_7$;

the dotted line indicates the presence of either a single or double bond;

$$D = O$$
, $B = S$ and $G = NR^7R^8$.

In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = CR^7R^8$$
, $B = O$ and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester,

alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = CR^7R^8$$
, $B = NR^8$ and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = CR^7R^8$$
, $B = CR^7R^8$ and $G = OR^8$.

In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁶O and CR⁷R⁶NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = CR^7R^8$$
, $B = S$, and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X=0, NR^8 or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester,

alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁵ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁵, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = CR^7R^8$$
, $B = O$ and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = CR^7R^8$$
, $B = NR^9$ and $G = NR^7R^8$.

In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = CR^7R^8$$
, $B = CR^7R^8$ and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, eycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfanyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester,

alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = CR^7R^8$$
, $B = S$ and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = S$$
, $B = O$ and $G = OR^8$.

In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

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R³ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

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the dotted line indicates the presence of either a single or double bond;

D = S, $B = NR^8$ and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

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 R^{T} is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{7} (X = O, NR^{8} or S);

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 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = S$$
, $B = CR^7R^8$ and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylaikyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = S$$
, $B = S$, and $G = OR^8$.

in another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

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 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

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the dotted line indicates the presence of either a single or double bond;

D = S, B = O and $G = NR^7 R^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

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 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

D = S, $B = NR^8$ and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfanyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁶, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

 $D = S_s B = CR^7R^8 \text{ and } G = NR^7R^8.$

In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

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 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or earbohydrate or XR^7 (X = O, NR^8 or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

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the dotted line indicates the presence of either a single or double bond;

D = S, B = S and $G = NR^7R^8$.

In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

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 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected

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independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = NR^7$$
, $B = O$ and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

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 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = NR^7$$
, $B = NR^8$ and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = NR^7$$
, $B = CR^7R^8$ and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfanonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected

independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = NR^7$$
, $B = S$, and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

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R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR² or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

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the dotted line indicates the presence of either a single or double bond;

$$D = NR^7$$
, $B = O$ and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmsceutically acceptable salts or prodrug are defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R², R³, R⁴, R⁵, R⁵, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = 0, NR⁸ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁶CR⁷R⁸, CR⁷=CR⁹, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = NR^7$$
, $B = NR^8$ and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected

independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

the dotted line indicates the presence of either a single or double bond;

$$D = NR^7$$
, $B = CR^7R^8$ and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug are defined as follows:

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 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfamyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷:

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the dotted line indicates the presence of either a single or double bond;

$$D = NR^7$$
, $B = S$ and $G = NR^7R^8$.

In a particular embodiment of the present invention, the compounds of the formula (XV) are the following species:

R^1 R^2 R^3 R^4 R^5										
G	В	D	R	R ²	R ³	R ³	R ⁵	R		
OH	0	O	Me	Ħ	H	H	Ме	Me		
OH	0	Ō	i-Pr	H	H	H	Me	Me		
OH	Ö	O	Ph	H	H	H	Me	Me		
OH	0	0	Me	Me	H	H	Me	Me		
OH	0	0	i-Pr	Me	H	H	Me	Me		
OH	0	0	Ph	Me	H	H	Me	Me		
OH	0	0	Me	H	Me	H	Me	Me		
OH	Ō	0	<i>i</i> -Pr	H	Me	H	Me	Me		
OH	O	Ō	Ph	H	Me	H	Me	Me		
OH	O	0	Me	H	H	Me	Me	Me		
OH	Ō	0	i-Pr	H	H	Me	Me	Me		
OH	0	0	Ph	H	H	Me	Me	Me		
OH	0	0	Me	H	CH ₂ Ph	H	Me	Me		
OH	0	0	i-Pr	H	CH ₂ Ph	H	Me	Me		
OH	O	0	Ph	Ħ	CH ₂ Ph	H	Me	Me		
OH	CH ₂	Ō	Me	H	II	H	Me	Me		
OH	CH ₂	0	<i>i-</i> Pr	H	H	H	Me	Me		

$R^1 \longrightarrow R^6$											
\mathbb{R}^2 \mathbb{R}^3 \mathbb{R}^3											
G	B	D	R,	R ²	R	R,	R ³	R,			
OH	CH ₂	0	Ph	Н	H	H	Me	Me			
ОН	CH ₂	Ö	Me	Me	H	H	Me	Me			
OH	CH ₂	Ö	<i>i</i> -Pr	Me	H	H	Me	Me			
OH	CH ₂	0	Ph	Me	H	H	Me	Me			
OH	CH ₂	0	Me	H	Me	H	Me	Me			
OH	CH ₂	0	i-Pr	H	Me	H	Me	Me			
OH	CH ₂	Ö	Ph	H	Me	H	Me	Me			
OH	CH ₂	0	Me	H	H	Me	Me	Me			
OH	CH ₂	0	i-Pr	H	H	Me	Me	Me			
OH	CH ₂	0	Ph	Ħ	Ħ	Me	Me	Me			
OH	CH ₂	Ö	Me	H	CH ₂ Ph	H	Me	Me			
OH	CH ₂	Ö	i-Pr	H	CH ₂ Ph	H	Me	Me			
OH	CH ₂	0	Ph	Ħ	CH ₂ Ph	H	Me	Me			
OH	0	CH ₂	Me	Н	H	Ħ	Me	Me			
OH	O	CH ₂	i-Pr	H	H	H	Me	Me			
OH	0	CH ₂	Ph	H	H	H	Me	Me			
OH	0	CH ₂	Me	Me	E	H	Me	Me			
OH	O	CH ₂	i-Pr	Me	H	H	Me	Me			
OH	0	CH ₂	Ph	Me	Н	H	Me	Me			

R^{1} R^{5}											
		Ç	R ²	R ³	`R"			***			
G	B	D	K,	ĸ.	Ŋ.	R³	R³	R"			
OH	0	CH ₂	Me	H	Me	H	Me	Me			
OH	Ō	CH ₂	i-Pr	H	Me	H	Me	M¢			
OH	0	CH ₂	Ph	H	Me	H	Me	Me			
OH	0	CH ₂	Me	H	H	Me	Me	Me			
OH	0	CH ₂	i-Pr	H	H	Me	Me	Me			
OH	0	CH ₂	Ph	H	H	Me	Me	Me			
OH	0	CH ₂	Me	H	CH ₂ Ph	H	Me	Me			
OH	Ö	CH ₂	<i>i-</i> Pr	H	CH ₂ Ph	H	Me	Me			
OH	0	CH ₂	Ph	H	CH ₂ Ph	H	Me	Me			

In a sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

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 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S).

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester,

alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S).

R₁ and R₂, R₂ and R₃, R₃ and R₄, R₄ and R₅ and R₅ and R₆ can also each be comprised of one or two CR₇R₈ groups, connected by a tether, selected independently from groups that include CR₇R₈, CR₇R₄CR₇R₅, CR₇=CR₈, CR₇R₈O and CR₇R₈NR₇.

The dotted line indicates the presence of either a single or double bond;

D is selected from the groups that include CR7R8, O, S or NR7;

G is selected from the groups that include OR7, NR7R8 or SR7.

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In another sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^{\dagger} is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{7} (X = O, NR^{8} or S).

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R₁ and R₂, R₂ and R₃, R₃ and R₄, R₄ and R₅ and R₅ and R₆ can also each be comprised of one or two CR₇R₈ groups, connected by a tether, selected independently from groups that include CR₇R₈, CR₇R₈CR₇R₆, CR₇=CR₈, CR₇R₈O and CR₇R₈NR₇; and

The dotted line indicates the presence of either a single or double bond;

D is 0;

G is OR7.

In another sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

 R_1 and R_2 , R_2 and R_3 , R_3 and R_4 , R_4 and R_5 and R_5 and R_6 can also each be comprised of one or two CR_7R_8 groups, connected by a tether, selected independently from groups that include CR_7R_8 , $CR_7R_8CR_7R_8$, $CR_7=CR_8$, CR_7R_8O and $CR_7R_8NR_7$.

The dotted line indicates the presence of either a single or double bond;

D is O;

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G is NR⁷R⁸.

In another sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl,

heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷; and

The dotted line indicates the presence of either a single or double bond;

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D is O;

G is SR7.

In another sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

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 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

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 R^2 , R^3 , R^4 , R^5 , R^5 , R^6 , R^7 and R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylaikyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷.

The dotted line indicates the presence of either a single or double bond;

D is CR⁷R⁸;

WO 02/28862

 GOR^7 .

In another sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

S

 R^1 is selected independently from the groups that include hydrogen, alkyl, eyeloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR₇R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷; and

The dotted line indicates the presence of either a single or double bond;

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D is CR⁷R⁸;

G is NR^7R^8 .

In another sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

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R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

The dotted line indicates the presence of either a single or double bond;

D is CR^7R^8 ;

G is SR?.

In another sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R₁ and R₂, R₂ and R₃, R₃ and R₄, R₄ and R₅ and R₅ and R₆ can also each be comprised of one or two CR₇R₈ groups, connected by a tether, selected independently from groups that include CR₇R₈, CR₇R₈CR₇R₈, CR₇=CR₈, CR₇R₈O and CR₇R₈NR₇;

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The dotted line indicates the presence of either a single or double bond;

D is S;

G is OR^7 .

S

In another sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S):

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 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

15

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

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The dotted line indicates the presence of either a single or double bond;

D is S;

G is NR⁷R⁸.

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In another sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁶, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

The dotted line indicates the presence of either a single or double bond;

D is S;

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G is SR?.

In another sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R) is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected

independently from groups that include CR7R8, CR7R8CR7R8, CR7=CR8, CR7R8O and CR7R8NR7;

The dotted line indicates the presence of either a single or double bond;

D is NR?:

G is OR^7 .

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In another sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

The dotted line indicates the presence of either a single or double bond;

D is NR^7 ;

G is NR⁷R⁸.

In another sub-embodiment, a structure of the formula (XVI) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

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 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

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The dotted line indicates the presence of either a single or double bond;

D is NR^7 ;

G is SR^7 .

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In a sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

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R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸ and R¹⁹ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl,

carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S).

R₁ and R₂, R₂ and R₃, R₃ and R₄, R₄ and R₅ and R₅ and R₆ can also each be comprised of one or two CR₇R₈ groups, connected by a tether, selected independently from groups that include CR₇R₈, CR₇R₈CR₇R₈, CR₇=CR₈, CR₇R₈O and CR₇R₈NR₇.

D and E are selected from the groups that include CR7R8, O, S or NR7;

G is selected from the groups that include OR7, NR7R8 or SR7.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

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 R^1 , R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} and R^{19} are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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R₁ and R₂, R₂ and R₃, R₃ and R₄, R₄ and R₅ and R₅ and R₆ can also each be comprised of one or two CR₇R₈ groups, connected by a tether, selected independently from groups that include CR₇R₈, CR₇R₈CR₇R₆, CR₇=CR₆, CR₇R₈O and CR₇R₈NR₇; and

E = O, D = O and $G = OR^3$.

In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸ and R¹⁹ are sciented independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S).

R₁ and R₂, R₂ and R₃, R₃ and R₄, R₄ and R₅ and R₅ and R₆ can also each be comprised of one or two CR₇R₈ groups, connected by a tether, selected independently from groups that include CR₇R₈, CR₇R₈CR₇R₈, CR₇=CR₈, CR₇R₈O and CR₇R₈NR₇.

E = O, $D = NR^8$ and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester,

alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷; and

E = O, $D = CR^7R^8$, and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 and R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfanyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S).

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷.

E = O, D = S and $G = OR^8$.

In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR₇R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷; and

E = O, D = O and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷...CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

$$E = O$$
, $D = NR^8$ and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R₁ and R₂, R₂ and R₃, R₃ and R₄, R₄ and R₅ and R₅ and R₆ can also each be comprised of one or two CR₇R₈ groups, connected by a tether, selected independently from groups that include CR₇R₈, CR₇R₈CR₇R₈, CR₇=CR₈, CR₇R₈O and CR₇R₈NR₇;

$$E = O$$
, $D = CR^7R^8$ and $G = NR^7R^8$.

In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester,

alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R₁ and R₂, R₂ and R₃, R₃ and R₄, R₄ and R₅ and R₅ and R₆ can also each be comprised of one or two CR₇R₈ groups, connected by a tether, selected independently from groups that include CR₇R₈, CR₇R₆CR₇R₈, CR₇=CR₈, CR₇R₈O and CR₇R₈NR₇;

E = O, D = S and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

 $E = CR^7R^8$, D = O and $G = OR^8$.

In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

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 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

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 $E = CR^7R^8$, $D = NR^8$ and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

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R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkuryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

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 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected

independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

$$E = CR^7R^8$$
, $D = CR^7R^8$ and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S):

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 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

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$$E = CR^7R^8$$
, $D = S$, and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

 $E = CR^7R^8$, D = O and $G = NR^7R^8$.

In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

 $E = CR^7R^8$, $D = NR^8$ and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

 $E = CR^7R^8$, $D = CR^7R^8$ and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^5 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylatkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁵, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷:

 $E = CR^7R^8$, D = S and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfanonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

E = S, D = O and $G = OR^8$.

In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

E = S, $D = NR^8$ and $G = OR^8$.

In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfanonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁶CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

E = S, $D = CR^7R^8$ and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^6 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

E = S, D = S, and $G = OR^S$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

E = S, D = O and $G = NR^7R^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷:

E = S, $D = NR^8$ and $G = NR^7R^8$.

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R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR⁷ (X = O, NR⁸ or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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E = S, $D = CR^7R^8$ and $G = NR^7R^8$.

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E = S, D = S and $G = NR^7 R^8$.

In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

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 $E = NR^7$, D = O and $G = OR^8$.

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In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);

 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 are selected independently from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkearbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = 0, NR^8 or S);

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R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR⁷R⁸ groups, connected by a tether, selected independently from groups that include CR⁷R⁸, CR⁷R⁸CR⁷R⁸, CR⁷=CR⁸, CR⁷R⁸O and CR⁷R⁸NR⁷;

 $E = NR^7$, $D = CR^7R^8$ and $G = OR^8$.

In another sub-embodiment, a structure of the formula (XVII) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^7 (X = O, NR^8 or S);